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- 副教授
- 讲师
- 实验教师
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文甲龙

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研究方向: 木质素化学及其高值化、生物质炼制

详细资料

教育/工作经历

- 教育经历:
- 2011/09-2014/07, 北京林业大学, 林产化工, 博士, 导师: 孙润仓教授
 - 2008/09-2011/07, 西北农林科技大学, 林产化工, 硕士, 导师: 苏印康教授
 - 2004/09-2008/07, 中南林业科技大学, 木材科学, 学士
- 工作经历:
- 2017/01-至今, 北京林业大学, 材料科学与技术学院, 副教授
 - 2014/07-2016.12, 北京林业大学, 材料科学与技术学院, 讲师
 - 2014/08-2016/07, 北京林业大学, 林木遗传育种, 在职博士后, 导师: 张德强教授

主讲课程

- 天然产物结构分析技术实验 (16学时, 本科生, 必修)
- 生物质清洁分离及绿色转化技术 (32学时, 本科生, 选修)
- 林产特色产品加工工艺学 (32学时, 本科生, 选修)
- 材料与化工现代研究方法 (32学时, 研究生, 必修)
- 高等植物纤维化学 (32学时, 研究生, 必修)

科研工作及成果

主要从事基于木质素化学的生物炼制研究, 包括定量核磁共振技术在天然高分子结构分析中(尤其是木质素结构定量解析)的应用及技术拓展, 木质纤维预处理化学, 木质素绿色溶解分离和结构解析, 木质素功能化改性及高值化; 半纤维素和纤维素定向解聚和功能化应用等。主持国家自然科学基金(4项)、国家重点研发计划子课题(1项)、北京林业大学杰出青年人才培养项目等十余项科研项目。截止目前, 在Green Chemistry, Chemical Engineering Journal, Bioresource Technology等生物领域知名国际期刊发表SCI收录论文110篇(第一作者/通讯53篇, 其中一区Top 论文35篇, ESI高被引6篇)。发表论文被SCI期刊他引4300次(Web of Science统计, 2022.9), H指数41。受邀参编木质素相关英文专著3部, 译著1部, 研究生推荐教材1本, 专著1本, 申请中国发明专利10余件, 授权7件。担任本领域十余种知名SCI期刊审稿人, 获得梁希科学技术奖自然科学二等奖(2021)、教育部高等学校科技进步一等奖(2015)、2020和2021年度爱思唯尔中国高被引学者等多项奖励, 入选北林学者-拔尖人才, 积极参加国际/国内学术交流, 其中20余次做学术报告。社会服务方面, 兼职多家企业的技术顾问。

奖励及荣誉称号

- 2011 获得“2011届北美枫情杯林科十佳毕业研究生”
- 2011 获得“陕西杨凌农业高新技术产业示范区科学技术一等奖(R7)”
- 2012 获得“博士研究生国家奖学金”
- 2013 获“宝钢优秀学生特等奖”
- 2014 第五届梁希青年论文二等奖
- 2015 美国化学会会员奖励(Membership Award)
- 2015 教育部科学技术进步奖一等奖(R10)
- 2016 第六届梁希青年论文二等奖
- 2017 第五届林业学术大会青年分会优秀报告奖一等奖
- 2020 年度爱思唯尔中国高被引学者(Highly Cited Chinese Researchers)
- 2021 年度爱思唯尔中国高被引学者(Highly Cited Chinese Researchers)
- 2020 入选北京林业大学“好评课堂”
- 2020 北京林业大学优秀班主任
- 2021 梁希林业科学技术奖自然科学二等奖(R2)
- 2021 入选全球顶尖10万科学家库

学术/社会兼职

- 中国化学会, 中国林学会, 美国化学会奖励会员
- 林草局木质素高值化利用国家创新联盟, 秘书长
- Frontiers in Bioengineering and Biotechnology (Guest Associate Editor)
- Frontiers in Energy Research (Guest Associate Editor & Review Editor)
- Frontiers in Sustainability (Associate Editor)
- Sustainable Chemistry (Topical Advisory Panel)
- 长期担任Chemical Engineering Journal, Green Chemistry, Bioresource Technology等本领域十余种知名SCI期刊审稿人

学术成果展示 (不超30个)

- J. L. Wen, B. L. Xue, F. Xu, R. C. Sun*. Unmasking the structural features and property of lignin macromolecules from bamboo. **Industrial Crops and Products**, 2013, 42, 332-343. (ESI高被引)
- J. L. Wen, S. L. Sun, B. L. Xue, R. C. Sun*. Structures and thermal properties of the birch lignins after ionic liquid pretreatment. **Journal of Agricultural and Food Chemistry**, 2012, 61, 635-645. (ESI高被引)
- J. L. Wen, S. L. Sun, B. L. Xue, R. C. Sun*. Recent advances in characterization of lignin in polymer by solution-state NMR methodology. **Materials**, 2013, 6, 359-391. (ESI高被引)
- J. L. Wen, S. L. Sun, B. L. Xue, R. C. Sun*. Quantitative structural characterization of the lignins from the stem and pith of bamboo (*Phyllostachys pubescens*). **Holzforschung**, 2013, 67(6), 613-627.
- J. L. Wen, S. L. Sun, T.Q. Yuan, F. Xu, R. C. Sun*. Fractionation of bamboo culms by autohydrolysis, organosolv delignification and extended delignification: understanding the fundamental chemistry of the lignin during the integrated process. **Bioresource Technology**, 2013, 150, 278-286.
- J. L. Wen, S. L. Sun, T.Q. Yuan, F. Xu, R. C. Sun*. Structural elucidation of lignin polymers of Eucalyptus chips during organosolv pretreatment and extended delignification. **Journal of Agricultural and Food Chemistry**, 2013, 61, 11067-11075.
- J. L. Wen, T.Q. Yuan, S. L. Sun, F. Xu, R. C. Sun*. Understanding the chemical transformations of lignin during ionic liquid pretreatment. **Green Chemistry**, 2014 (1), 16, 181-190.
- J. L. Wen, S. L. Sun, T.Q. Yuan, F. Xu, R. C. Sun*. Understanding the chemical and structural transformations of lignin macromolecule during torrefaction. **Applied Energy**, 2014, 121, 1-9 (ESI高被引)
- J. L. Wen, S. L. Sun, T.Q. Yuan, R. C. Sun*. Structural elucidation of whole lignin from Eucalyptus based on pre-swelling and enzymatic hydrolysis. **Green Chemistry**, 2015, 17(3), 1589-1596.
- X. J. Shen, B. Wang, P. L. Huang, J. L. Wen*, R. C. Sun. A mild AlCl₃-catalyzed ethanol pretreatment and its effects on the structural changes of Eucalyptus wood lignin and the saccharification efficiency. **Bioresource Technology**, 2016, 206, 57-64.
- T. Y. Chen, J. L. Wen*, B. Wang, H. M. Wang, G.F. Liu, R. C. Sun. Assessment of integrated process based on autohydrolysis and robust delignification process for enzymatic saccharification of bamboo. **Bioresource Technology**, 2017, 244, 717-725.
- H. M. Wang, B. Wang, J. L. Wen*, T. Q. Yuan, R. C. Sun*. Structural Characteristics of Lignin Macromolecules from Different Eucalyptus Species. **ACS Sustainable Chemistry & Engineering**, 2017, 5, 11618-11627.
- H. M. Wang, B. Wang, J. L. Wen*, S. F. Wang, Q. Shi, R. C. Sun*. Green and efficient conversion strategy of Eucalyptus based on mechanochemical pretreatment. **Energy Conversion and Management**, 2018, 175, 112-120
- X. J. Shen, J. L. Wen*, Q. Q. Mei, X. Chen, D. Sun, T. Q. Yuan, R. C. Sun*. Facile fractionation of lignocelluloses by biomass-derived deep eutectic solvent (DES) pretreatment for cellulose enzymatic hydrolysis and lignin valorization. **Green Chemistry**, 2019, 21, 275-283. (ESI高被引)
- H. M. Wang, C. Y. Ma, H. Y. Li, T. Y. Chen, J. L. Wen*, X. F. Cao, X. L. Wang, T. Q. Yuan, R. C. Sun*. Structural variations of lignin macromolecules from early growth stages of poplar cell walls. **ACS Sustainable Chemistry & Engineering**, 2020, 8, 1813-1822.
- X. J. Shen, T. Y. Chen, H. M. Wang, Q. Q. Mei, F. X. Yue, S. N. Sun, J. L. Wen*, T. Q. Yuan, R. C. Sun. Structural and morphological transformations of lignin macromolecules during bio-based deep eutectic solvent (DES) pretreatment. **ACS Sustainable Chemistry & Engineering**, 2020, 8, 2130-2037 (ESI高被引)
- C. Y. Ma, X. Gao, X. P. Peng, Y. F. Gao, J. Liu, J. L. Wen*, T. Q. Yuan. Microwave-assisted deep eutectic solvents (DES) pretreatment of control and transgenic poplars for boosting the lignin valorization and cellulose bioconversion. **Industrial Crops and Products**, 2021, 164, 113415-113424
- C. Y. Ma, L. H. Xu, C. Zhang, K. N. Guo, T. Q. Yuan, J. L. Wen*. A synergistic hydrothermal-deep eutectic solvent (DES) pretreatment for rapid fractionation and targeted valorization of hemicelluloses and cellulose from poplar wood. **Bioresource Technology**, 2021, 341, 125828-125837
- L. H. Xu, C. Y. Ma, C. Zhang, J. Liu, X. P. Peng, S. Q. Yao, D. Y. Min, T. Q. Yuan, J. L. Wen*. Ultrafast fractionation of wild-type and CSE down-regulated poplars by microwave-assisted deep eutectic solvents (DES) for cellulose bioconversion enhancement and lignin nanoparticle fabrication. **Industrial Crops and Products**, 2022, 176, 114275-114284.
- K.N. Guo, C. Zhang, L.H. Xu, S.C. Sun, J.L. Wen*, T.Q. Yuan. Efficient fractionation of bamboo residue by a utohydrolysis and deep eutectic solvents pretreatment. **Bioresource Technology**, 2022, 354,127225-127233.
- S.C. Sun, Y. Xu, J.L. Wen*, T.Q. Yuan, R.C. Sun*. Recent advances in lignin-based carbon fibers (LCFs) precursors, fabrications, properties, and applications. **Green Chemistry**, 2022, 24, 5709-5738.
- C.Y. Ma, L.H. Xu, Q. Sun, X.J. Shen, J.L. Wen*, T.Q. Yuan. Tailored one-pot lignocellulose fractionation to maximize biorefinery toward controllable producing lignin nanoparticles and facilitating enzymatic hydrolysis. **Chemical Engineering Journal**, 2022, 450, 138315-138326.
- J. L. Wen, H. M. Wang, C. Y. Ma, T. Q. Ma, R. C. Sun. Value-added products from lignin: Iso lation, characterization and applications in Biomass, Biofuels, Biochemicals: Lignin Biorefinery, Edited by Thallada Bhaskar and Ashok Pandey, Elsevier, 2021, 33-55 (英文专著).
- 文甲龙, 一种木质素的分离提纯及降解方法, 中国, 201710344643.1[P]. 2017-5-16.
- 文甲龙, 马成业, 袁同琦, 曹学飞, 张琛, 徐玲花, 高雪, 高宇非, 王汉敏. 一种从木质纤维生物质中制备高得率高芳基醚键结构木质素的方法: 中国, 202010873273.2[P]. 2020-12-04.
- 文甲龙, 马成业, 孙润仓, 袁同琦, 王汉敏, 曹学飞. 一种微波辅助低共沸溶剂提取生物质中木质素的方法: 中国, 201911229388.1[P]. 2020-04-10.
- 文甲龙, 孙润仓, 王兵, 沈晓璇, 朱铭强, 陈天影. 从生物质中提取高活性木质素的方法及其所得的木质素, 中国, 201610262776.X [P]. 2016-04-25
- 孙润仓, 文甲龙, 王汉敏, 袁同琦. 一种基于稀酸预浸渍的高效分离木质素的方法: 中国, 201810707500.7 [P] 2019-01-08.